

NORTH



NOT A LEGAL SURVEY

1"=50 FT.

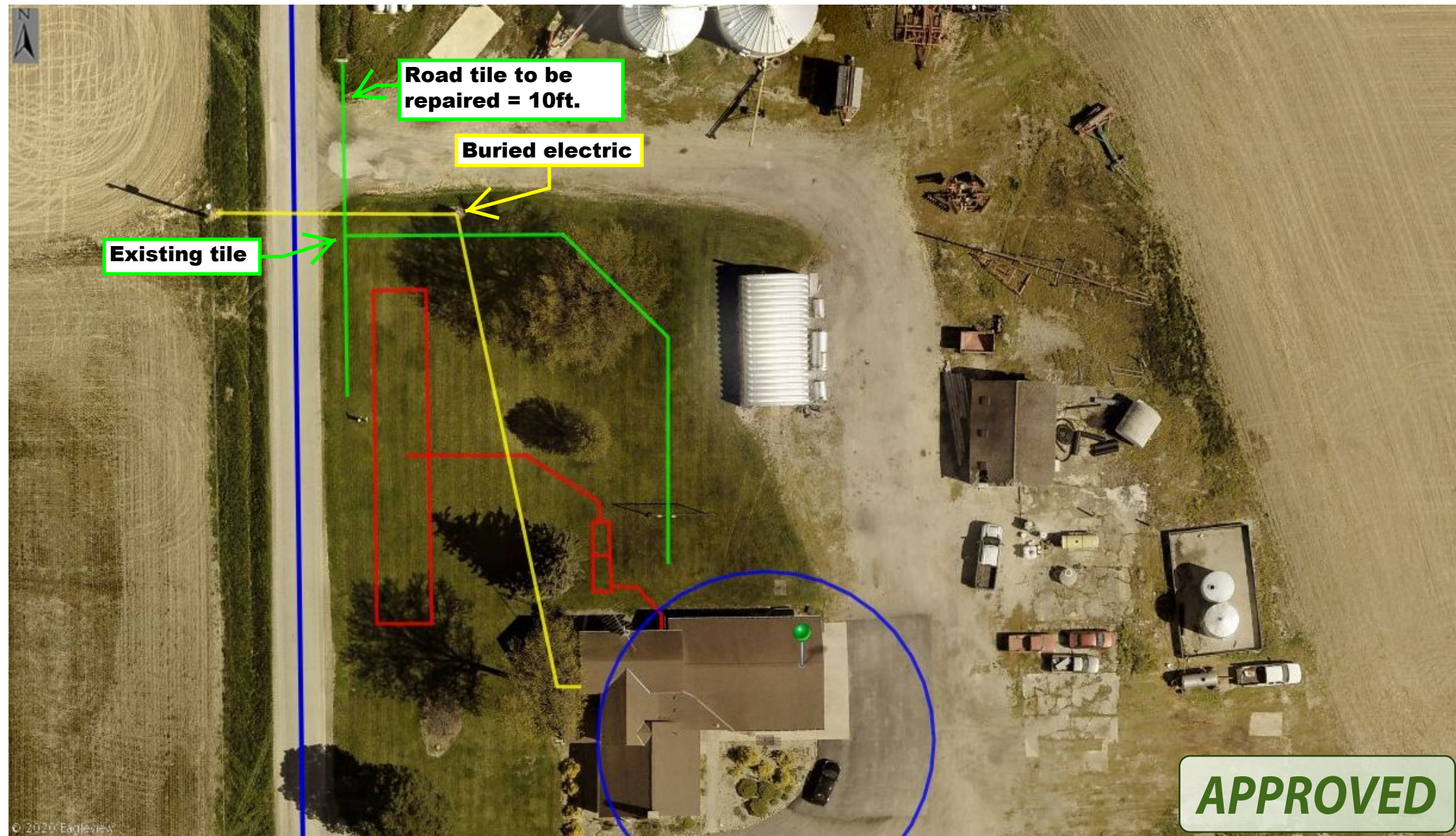
Print 8.5"x11"

LEGEND

- ▶ Benchmark
- Observation Port
- Sample Port

APPROVED

4849 N TR 175

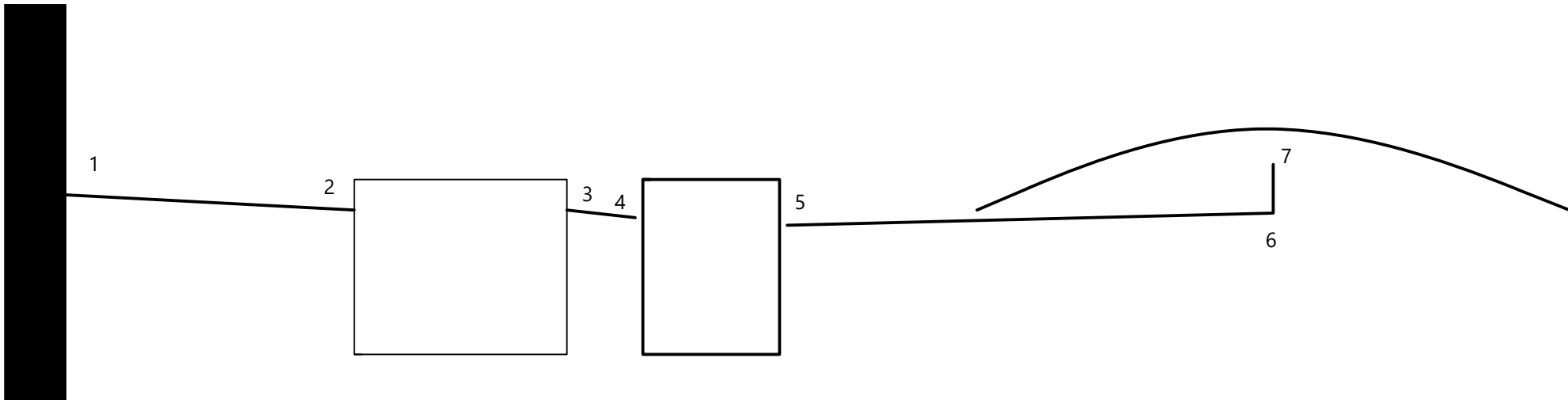


OWNER NAME:	Beckman		
ADDRESS:	4849 N TR 175		
# BEDROOMS	3	1500 gal. SEPTIC TANK	
DAILY DESIGN FLOW	360	1000 GAL. DOSE TANK	
ADJUSTMENTS:			
SYSTEM TYPE	SAND MOUND		
SOILS			
LIMITING CONDITION	PSWT		
DEPTH TO LIMITING CONDITION	10"		
INFILTRATION DEPTH	10"		
DEPTH INTO ORIGINAL GRADE	0"		
SLOPE	0%		
SOIL INFILTRATION LOADING RATE	0.4	BT1	Soil Horizon
HYRAULIC LINEAR LOADING RATE	2.7	A	Soil Horizon
SYSTEM CALCULATIONS		ACTUAL DESIGN	
INFILTRATIVE SURFACE (ft2)	900	900	
BASAL LENGTH (FT)	133	90	
SAND DEPTH	6"	12"	
BASAL WIDTH (FT)	6.76	10	
MOUND WIDTH	12	14	
MOUND LENGTH	144	105	
Existing Grade shots			
Benchmark(Nail in weather station post)	4.20		
Existing sewage flow line	2.50		
Septic tank	2.50		
Dose Tank	2.85		
Soil absorption grade North	5.10		
Soil absorption grade South	4.20		
Existing drain outlet flow line	8.50		
Basal bottom	5.10		
Top of sand	4.10		
Lateral	3.80		
Top of mound	3.00		
Curtain drain flow line	7.10	Slope of at least one-tenth per one hundred feet	
CONSTRUCTION NOTES:			
3" stone embedded in sand and 1" stone covering lateral. Orifices in the down position with orifice shields STS-106.			
Place geotextile fabric over lateral distribution area.			
Level basal area before scarifying. The south portion of basal is higher. Basal base shall be flat +/- 0.2 of 5.10.			
Curtain drain 4" slotted drain tile. Stone fill to 1 ft. over drain tile. Curtain drain is 105 ft. long x 15 ft. wide			
There is existing drain that the curtain drain outlet can be connected to. This drain connects to existing road tile that flows to the north under driveway. Approximately the last 10 ft of the road tile will need to be replaced.			
MATERIALS(General)			
1- 1500 gal septic tank			
1- 1000 gal dose tank w/ CPES 5 champion pump, timed dosed panel and effluent filter			
25 ft.- 4" sch. 40 with required fittings and 1- 4" 2 way cleanout			
Sand fill meeting ASTM C33			
#57 limestone for distribution area and curtain drain			
260 ft 4" slotted drain tile, App. 10 ft. of 6" dual wall tile to repair road tile under driveway.			
2- 4" observation ports located between laterals			
1- Sample port			
2" sch. 40 for main line with required fittings			
1.25" sch. 40 for laterals with required fittings			

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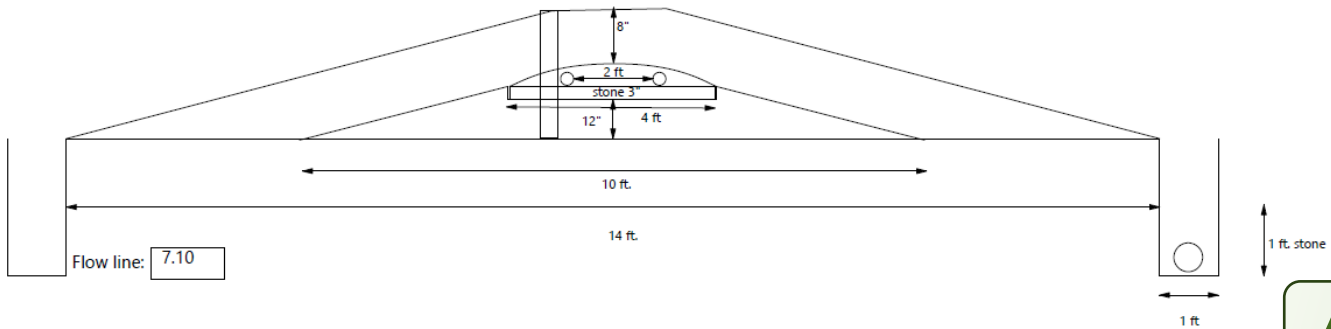
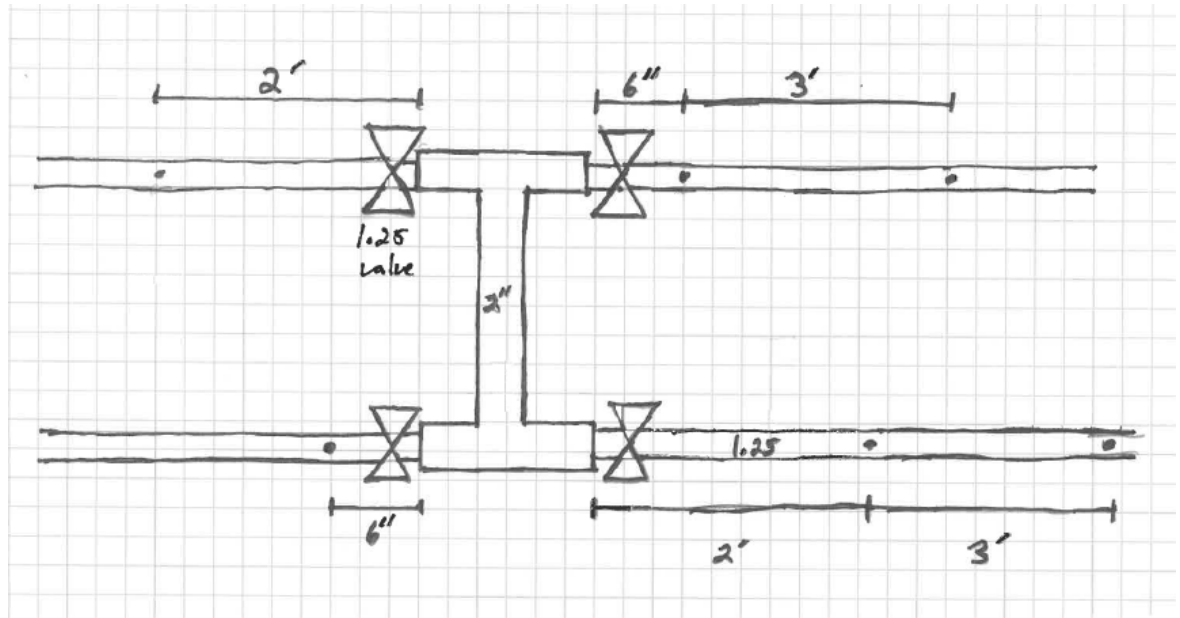
Household Info.	Bedrooms	Daily flow	Perched Water	Restrictive layer					
	3	360	10"	42"					
Soils	Basal	0.6							
	LLR	2.7							
Distribution Area (TYLER)					Designed Basal				
	Area(ft2)	Length(ft.)	Width		Length(ft.)	Width(ft.)	Depth	Basal ft2	
	600	133	4.5		90	10	12"	900	
					Distribution Area				
					90	4	3"		
Lateral Design	# Lat.	4	Lat. vol/ft	0.078			Orifice position down		
	Lat. Dia.	1.25	Lat. Vol.	3.51					
	Lat. Length	45	Tot. Lat. Vol./dose	14.04	5x Lateral Vol.	70.2			
	Lat. Spacing	2 ft							
	Orifice Dia.	0.188	Squirt Height(ft)	3	Basal ft2/Orifice	0			
	Orifice Spacing	3	Orifice Rate(gpm)	0.72	Flowrate(gpm)	43.2			
	Orifice Lat.	15	Orifice total	60					
Main/Manifold	Main Dia	2.0"	Manif. Dia	0	Dose tank	2.0"			
	Main length	70	Mainif. Length(ft.)	0	Main length	4			
	Main vol./ft	0.174	Mainif. Vol/ft	0	Main vol./ft	0.174			
	Main Vol.	12.18	Mainif. Vol.	0	Main Vol.	0.696			
TDH					TDH calc(Main and Manifold)				
	Static Head	6.5							
	Main/Manifold	8			Size	Fittings	QTY	Factor	TOTALS
	Zone Valve	0			3.0"	Pipe	0	1	0
	Network Loss	3.9	(Squirt height X 1.3)		3.0"	T	0	16	0
TOTAL	18.4			3.0"	Cross	0	6.3	0	
Pump Selection					3.0"	Check	0	26	0
	GPM	43.2			3.0"	90	0	8	0
	TDH	18.4			3.0"	45	0	4	0
Dose Design							TDH	0.00	0
	# Pump Cycles	8			2.0"	Pipe	74	1	74
	Lateral Vol.	14.0	A		2.0"	Coupler	1	2	2
	Manifold Vol.	0.0	B		2.0"	90	3	6	18
	Main Vol.	12.9	C		2.0"	Check	1	17	17
	Applied Dose	45.0			2.0"	45	1	2.5	2.5
	Drainback	12.9	B+C				TDH	3.47	113.5
	Total Dose	57.9	(Applied Vol. + Drainback)		1.0"	Pipe	1	1	1
				1.0"	90	2	2.25	4.5	
Timer setting(min)	1.34					TDH	4.56	5.5	
					"K" constants				
				3.0"	803.9		1.0"	47.8	
				2.0"	284.5				
				2.5"	454.1				
				1.5"	147.5				
				1.25"	98.3				

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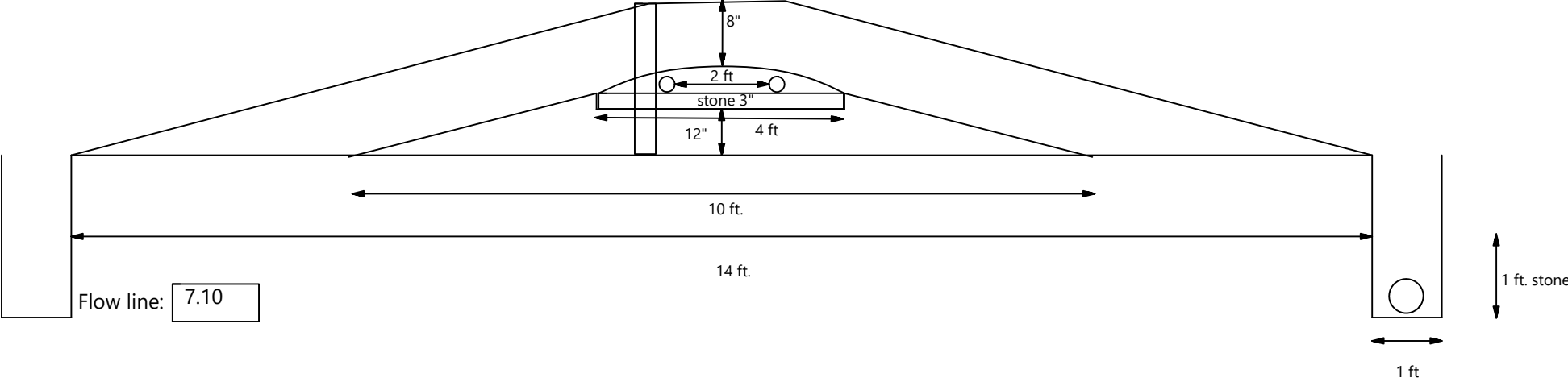
Flow line

Benchmark	4.20
1. Existing flow line	2.50
2. Septic inlet	4.50
3. Septic outlet	4.70
4. Dose tank inlet	5.50
5. Dose tank outlet	6.00
6. Effluent main turnup	5.50
7. Laterals	3.80

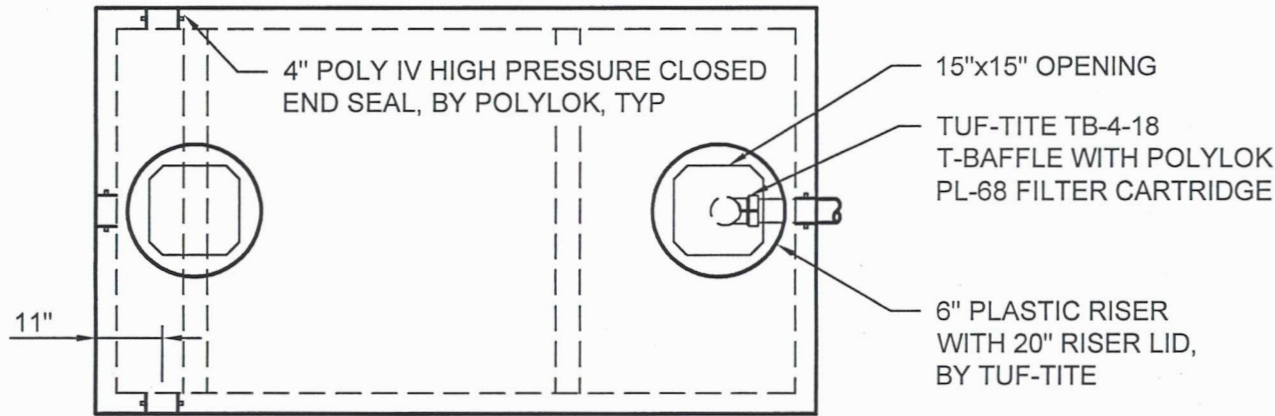


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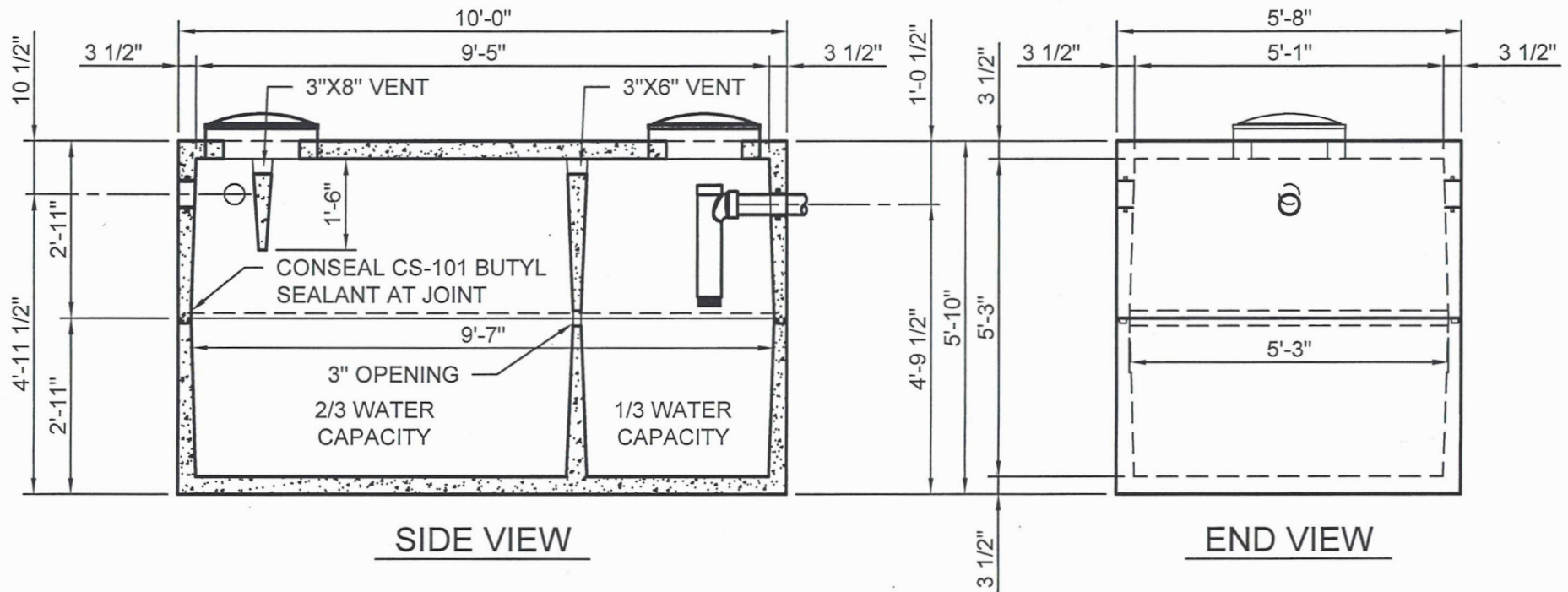
MOUND CROSS SECTION



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PLAN VIEW



SIDE VIEW

END VIEW

Stiger
Precast, Inc.
17793 St Hwy. 231
Nevada, OH 44849
740-482-2313
800-426-2116

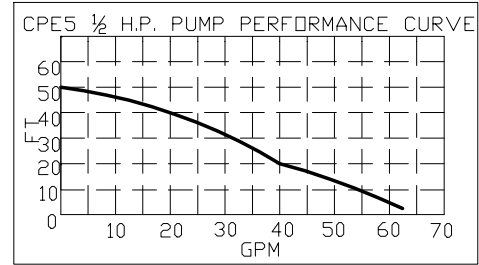
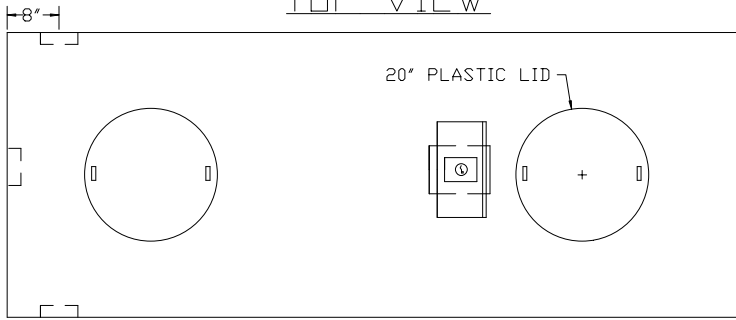
Scale: 1/2" = 1'-0"
Date: 12/22/2015

1,500 GALLON
SEPTIC TANK

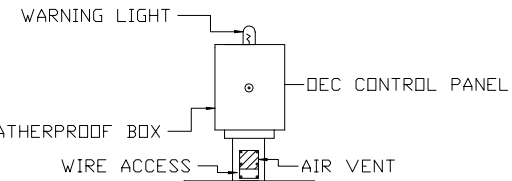
Dwg No.
**ST
1500**

1/2 H.P. 1000 GAL LIFT STATION # 1001

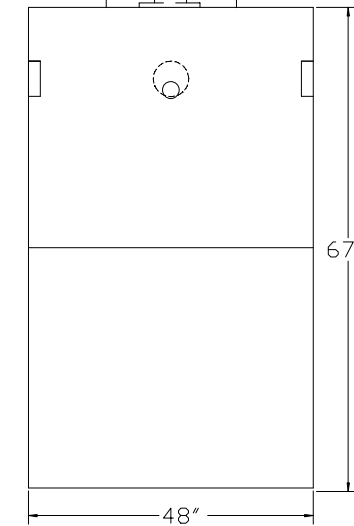
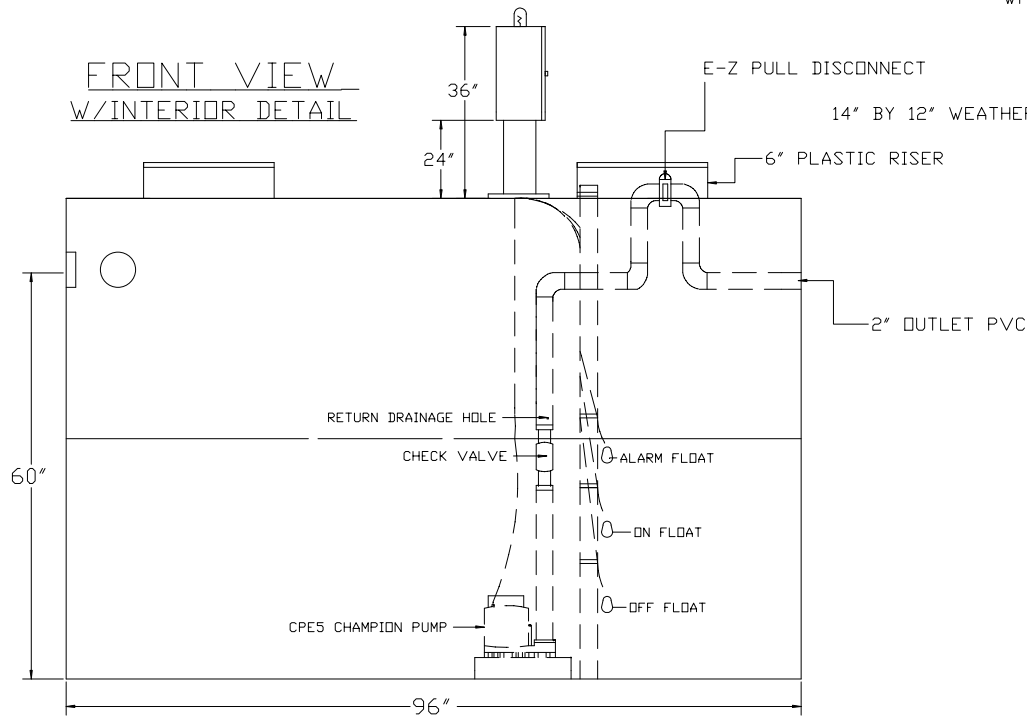
TOP VIEW



SIDE VIEW



FRONT VIEW
W/INTERIOR DETAIL



General Notes

48" WIDE
96" LONG
67" HIGH
60" FROM CENTER OF INLET TO BOTTOM OF TANK

55" FROM CENTER OF OUTLET TO BOTTOM OF TANK

OFF FLOAT @ 15"
ON FLOAT @ 21"
ALM. FLOAT @ 26"

ALL MEASUREMENTS FROM BOTTOM OF TANK
FOR EVERY INCH IT IS 10 GALLONS OF WATER

HIDDEN LINES
TWO PIECE TANK

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No.	Revision/Issue	Date
1	ADDITIONS/TJM	1/07

STIGER PRECAST INC.
PHONE# 740-482-2313
800-426-2116

1000 GAL. LIFT STATION #1001
1/2 H.P., TIME DOSE, AND BACK-UP PUMPS AVAILABLE BY REQUEST

Project: 1000	Sheet: L/S
Date: 04-05-05	Code: #1001
Code: FULL	

Every pump tested in water to ensure pump meets performance curve.



FEATURES/BENEFITS

PERFORMANCE

- Heads up to 37' TDH
- Flows up to 72 GPM

MOTOR

- High efficient, 115v, oil filled, permanent split capacitor motor with upper and lower ball bearings and thermal overload protection
- Constant bearing lubrication
 - Maximum motor cooling
 - Runs cooler and lasts longer
 - Internal overload protection
 - Quiet operation
 - Fasteners and shaft made from rugged, corrosion resistant stainless steel

SEAL DESIGN

- Mechanical with secondary dynamic lip seal
- Provides added leakage protection

IMPELLER DESIGN

- Non-clog style vortex impeller
- Designed to help reduce clogging by foreign material

POWER CORD

- Sealed entry quick disconnect power cords
- Prevents water from entering the motor housing through a cut cord
 - Easy to replace in the field
 - Available in lengths up to 100'

SWITCH

- Piggy-back switch design
- Defective switches can be diagnosed over the phone
 - Pump can be operated manually or supplied with other piggy-back switches
 - Switch can be replaced without having to replace the pump

APPLICATIONS

Basements, dewatering, septic systems, residential and commercial developments and elevator pits



Wide-Angle Float



Vertical Float

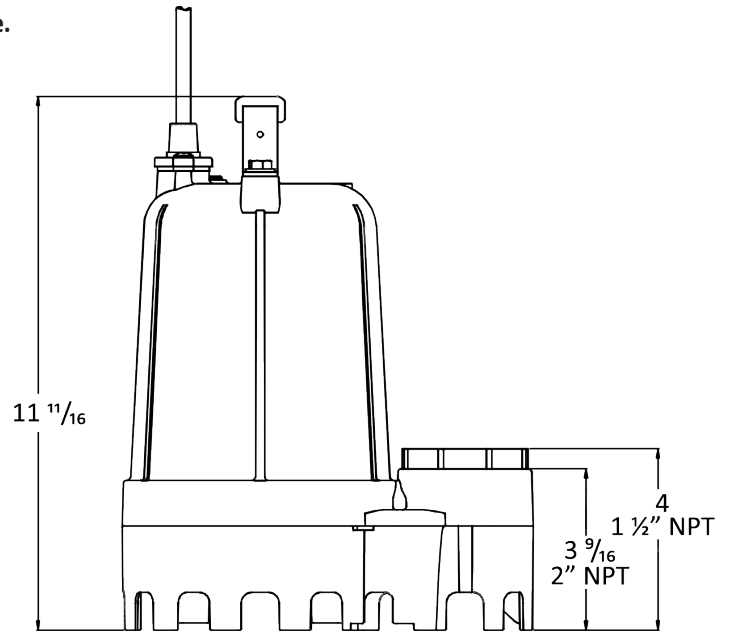
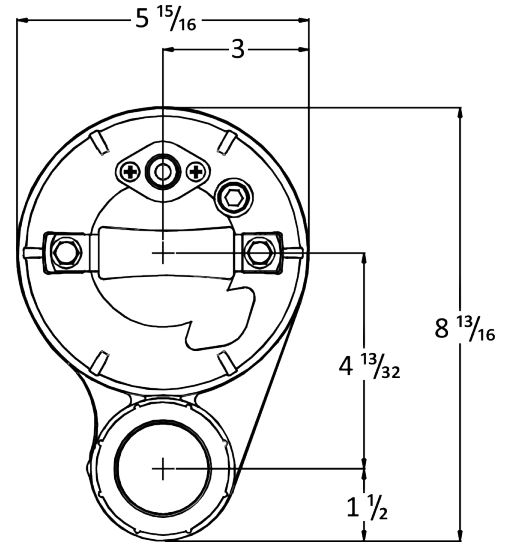
1/2 HP submersible pumps that handle up to 3/4" solids with 2" discharge with 1 1/2" adapter

PERFORMANCE CURVE



TECHNICAL DATA

DISCHARGE	2" NPT. with 1-1/2" adapter included
SOLIDS HANDLING	3/4"
LIQUID TEMPERATURE	140 Degrees F. (Intermittent)
MOTOR HOUSING	Cast Iron
VOLUTE	Engineered glass filled thermoplastic
SEAL PLATE	Cast Iron
IMPELLER	Engineered glass filled thermoplastic/ Vortex
SHAFT	Stainless Steel
SHAFT SEAL (SINGLE SEAL)	Mechanical with secondary dynamic lip seal, carbon rotating face, ceramic stationary face, Buna-N elastomer, 300 series stainless steel hardware
BEARINGS (UPPER & LOWER)	Single row, ball, oil lubricated
HARDWARE	300 Series stainless steel
O-RINGS	Buna-N
CORD	10' Length standard. Up to 100' available. (UL/CUL) Listed 16 AWG, Type SJTW
MOTOR (SINGLE PHASE)	1/2 HP 3450 RPM, 60 Hz, NEMA L Includes overload protection in the motor, oil filled, class B permanent split capacitor
WEIGHT	25 lbs. (Manual)



MODEL(S) INFORMATION

MODEL	HP	VOLTS	PHASE	AMPS	CORD LENGTH	SWITCH
CPES5-11	1/2	115	1	8.9	10'	Manual
CPES5-12	1/2	115	1	8.9	20'	Manual
CPES5-13	1/2	115	1	8.9	30'	Manual
CPES5-15	1/2	115	1	8.9	50'	Manual
CPES5A-11	1/2	115	1	8.9	10'	Wide-Angle Float
CPES5A-12	1/2	115	1	8.9	20'	Wide-Angle Float
CPES5A-13	1/2	115	1	8.9	30'	Wide-Angle Float
CPES5V-11	1/2	115	1	8.9	10'	Vertical Float
CPES5V-12	1/2	115	1	8.9	20'	Vertical Float
CPES5V-13	1/2	115	1	8.9	30'	Vertical Float

Fix Your Weakest Link !

STF-106 Series

Orifice Shields



PN. STF-106



PN. STF-106-D4



PN. STF-106-TDS

Any wastewater treatment system is only as effective as it's weakest link.

For most of these systems those weak links are the drain holes in the distribution fields.

These holes become restricted or plugged altogether, by the drain media itself.

The STF-106 series orifice shields strengthen that weak link by preventing orifice restriction or blockage by eliminating contact between the orifice and drain media.

SIM/TECH
FILTERS

WWW.GAG-SIMTECH.COM

888-999-3290

STF-106 Series

Orifice Shields

Orifice shields are an essential part of all low-pressure wastewater systems. SIM/TECH manufactures three different models that cover a wide variety of applications. Every model insures even distribution from all orifices in any system, by separating the discharge orifices from the drain media or insuring even distribution of spray.

If you design or install a culvert under a driveway, you wouldn't allow the installers to put a boulder in front of it to block drainage. So why design or install lateral piping in the field, then lower and backfill the laterals with the drain holes resting on drain media. Flow rates are calculated and designed assuming unrestricted drain holes or orifices. Keep them that way by using orifice shields.

All wastewater systems should be designed with the use of orifice shields on all discharge holes to insure even distribution and even system pressure after backfilling. Because of low pressure in these systems, typically 2-4 psi, it is vital that the drainage media does not interfere with the discharge orifices, these systems can not clear themselves once they become blocked or restricted.

Make your flow rates a reality, use orifice shields on your lateral piping.

All of our orifice shields easily snap into place on lateral piping and with over 9" of gripping surface stay securely in place, even after back-filling.



STF-106 Orifice Shield

Our most popular model - For use on mound systems and at grade pressure systems. This fully enclosed orifice shield snaps onto the distribution pipe with over 9" of gripping surface. Fits 1 1/4" and 1 1/2" pipe. STF-106 for 3/4" and 1" pipe is mainly for use on sand filters and small pipe pressure systems.



STF-106-D4 Diffuser Shield

Our D4 was designed for use in pressurized chambered or mound systems. The D4 will diffuse the spray of effluent without the use of splash plates or drain stone under the downward orifices. The D4 diffuses the concentrated streams of effluent through eight escape locations on the shield. Fits 1 1/4" and 1 1/2" pipe



STF-106-TDS Top Discharge Shield

The TDS is used in systems requiring the discharge holes on the field laterals to face up. As consistent in Sand Filter Systems the shield is installed over the top of the lateral pipe with no drain slots above the discharge holes. Fits 3/4" or 1" pipe

CUSTOM SIZING AVAILABLE FOR ALL STF-106 series Orifice Shields

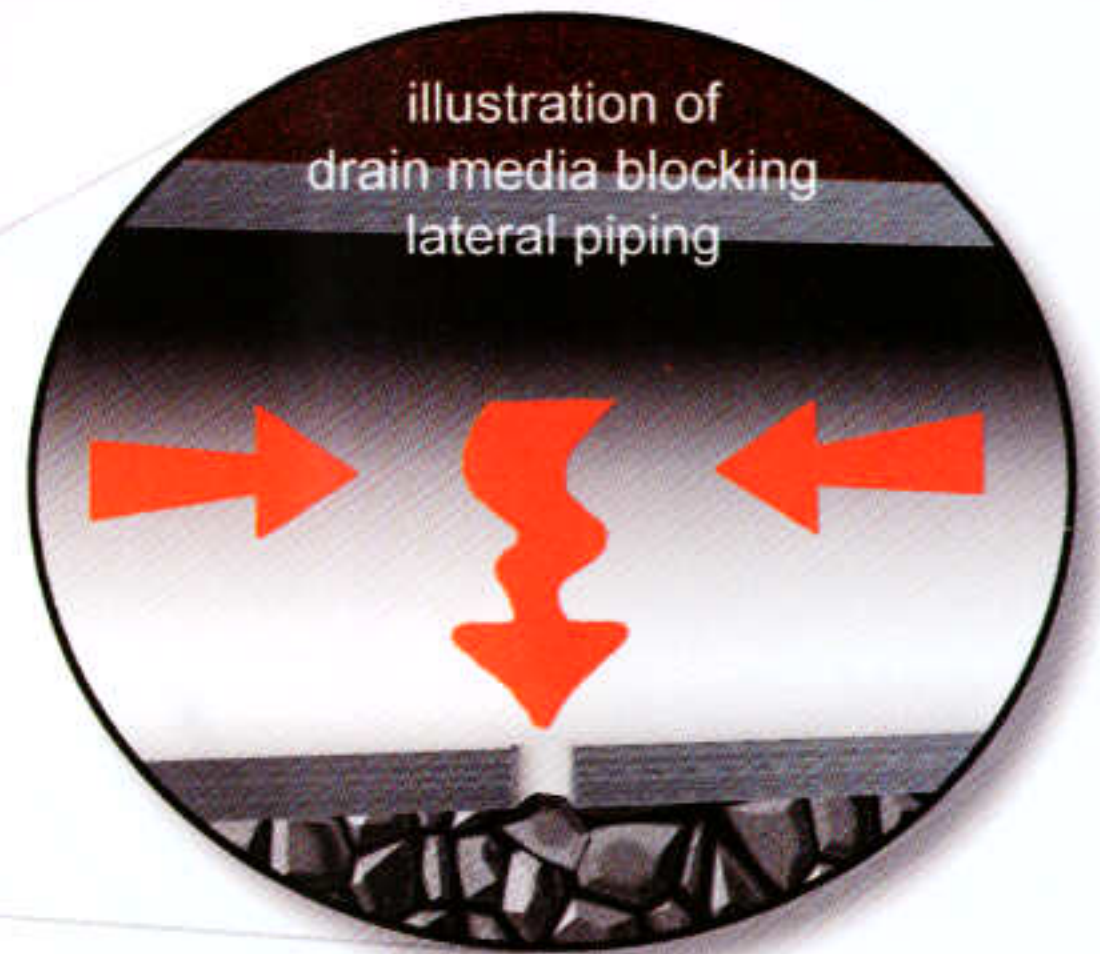


illustration of
drain media blocking
lateral piping



cross-section of
orifice shield installed
on lateral piping



illustration of
orifice shield installed
over lateral piping

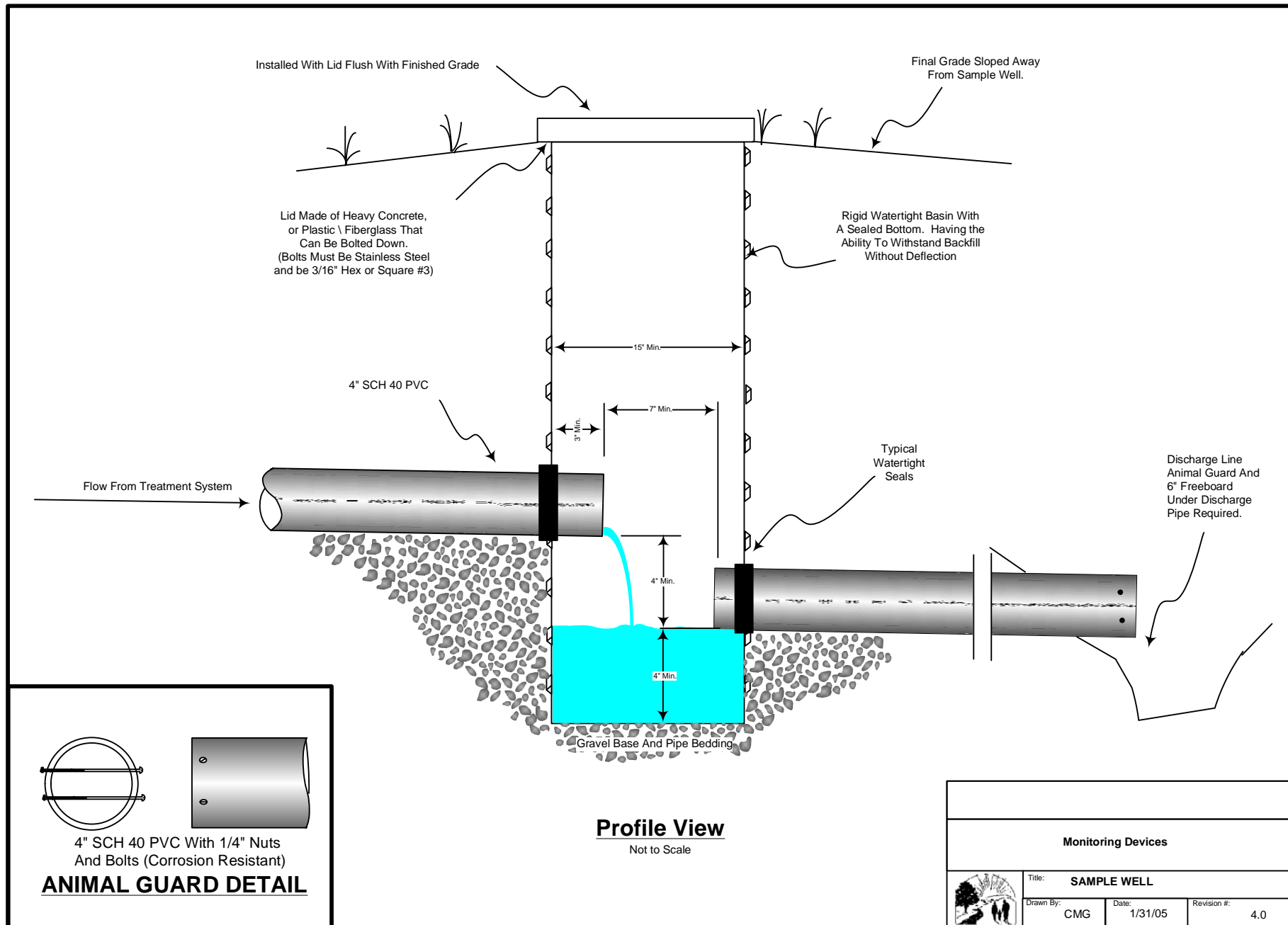
SIM/TECH

FILTER

06598 Horton Bay North Rd. - Boyne City, MI 49712
888-999-3290 - fax: 231-582-7324
simtech@freeway.net - www.gag-simtech.com

Protected by U.S. patent 6,167,914
Distributor inquiries welcome

Typical Sample Well



Sim/Tech Filter
1455 Lexamar Drive
Boyne City, MI 49712
Office: 231-582-1020



Website: www.gag-simtech.com
Email: sales@gag-simtech.com
Fax: 231-582-7324
Toll Free: 888-999-3290

Sim/Tech Filter's Last Line of Defense

The 100 Series Pressure Filter



Vortex Action

The Sim/Tech pressure filter, with its unique design and mounting location, allows the filtering screen to be scrubbed during pump operation, providing maximum maintenance intervals with unmatched performance capabilities.

The filter screen is a type 316L stainless steel with .062" (1/16") diameter holes. Optional socks are available for finer filtration. The screen is 3 inches in diameter and 18 inches long, with 41% open area. This large open area (69.52 square inches) allows the filter to operate at up to 83.8 gallons per minute at 1 psi. With features like these even a 95% plugged screen will keep your pressurized system well protected and working properly.

This performance product assures quality effluent with lower TSS levels, keeping your pressurized systems functioning at 100% efficiency.

Engineers and designers can specify the Sim/Tech pressure filter to safeguard and assure systems will function as designed now and in the future.

The Sim/Tech pressure filter is perfect for both residential and commercial applications.

High flow-rate manifold.



Multiple filters can be assembled into a manifold to accommodate high flow-rate or high strength effluent systems.

At the max flow-rate of 83.8 gpm, headloss for a clean filter is .21 psi or 1/2 foot and headloss for a 95% plugged filter is .85 psi or 2 feet.

For more info and to see videos, visit www.simtechfilter.com



Solutions

We offer free CAD detail drawings in DXF format to cover our complete product line.

For the protection and performance of wastewater systems by

www.gag-simtech.com
888-999-3290

SIM/TECH
FILTER